Minimal effects of wind turbines on the distribution of wintering farmland birds

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Context

- EU renewable development targets
- 44% of EU land is farmland
- Farmland birds in decline across UK and EU – 40 million starlings
- AES aim to halt and reverse these declines
- €24 billion spent on AES between 1993-2003
- Farmland birds at risk of displacement by turbines
- Winter known to be critical in annual survival
- No other published study investigating this
Study sites and methods

• 16 turbines (2MW, 60m hub, 100m tip)
• Two sites in East Anglian fens
• Operational since 2006, study 2008
• Response variable bird counts (x 6) in blocks:
  (1) < 150m; (2) 150–300m; (3) 300–450m; (4) 450–600m; (5) 600–750m
• Boundary and habitat type included in analytical model
Results

- 2845 individuals of 33 species recorded
- 13 most common split into four functional groups and analysed
- No effect of turbine proximity on distribution of functional group ($P>0.05$)
- However, pheasant occurrence increased away from turbines
- Boundary features selected by granivores and avoided by skylarks as per previous studies – supporting the power of the study to detect distribution patterns
Discussion

• Indicates minimal displacement impacts on farmland birds
• Good news for conservationists and developers
• This is a first step: we need to increase scale and scope of research for application across sites and species
• JPE 2008 with wide press coverage - this remains the only published study on displacement of wintering farmland birds
• In 2010 chosen as one of the 20 most influential papers that bridge the policy-science divide over last 5 years published in JPE
• Despite this, apparently not widely cited in policy, e.g. NE Guidance on effects of onshore wind farms on birds - TIN069 (2010)
Data rich but knowledge poor

- Many wind farm developments involve pre and post-development bird survey
- Client confidentiality curtailing evidence base
- Huge opportunity to increase evidence base rapidly
The future

• Currently working on displacement responses of breeding farmland birds – initial results inconclusive
• Increase knowledge through release of existing data from development projects – Renewable UK/statutory bodies/IEEM?
• Funding for analysing and reporting – DECC/IEEM?
• Set standards for future surveys
• Become data rich and knowledge rich to give an evidence-base to inform and facilitate the planning process